

## *Balaenoptera musculus* (Blue Whale)

### Priority 2 Species of Greatest Conservation Need (SGCN)

**Class:** *Mammalia* (Mammals)

**Order:** *Cetacea* (Whales)

**Family:** *Balaenoptera* (Balaen Whales)

#### General comments:

Maine DMR jurisdiction; circumglobal

#### No Species Conservation Range Maps Available for Blue Whale

#### SGCN Priority Ranking - Designation Criteria:

##### Risk of Extirpation:

Federal Status: **Endangered**

IUCN Red List Status: **Endangered**

**State Special Concern or NMFS Species of Concern: NA**

**Recent Significant Declines: NA**

**Regional Endemic: NA**

**High Regional Conservation Priority:**

NatureServe:

Global Rank: G3

**High Climate Change Vulnerability: NA**

**Understudied rare taxa: NA**

**Historical: NA**

**Culturally Significant: NA**

#### Habitats Assigned to Blue Whale:

Formation Name	Subtidal
Macrogroup Name	Subtidal Pelagic (Water Column)
Habitat System Name: Offshore	<b>**Primary Habitat**</b> Notes: <i>adult, juvenile, calf</i>
Habitat System Name: Upwelling Zones	<b>**Primary Habitat**</b> Notes: <i>adult, juvenile, calf, assumed feeding area</i>

#### Stressors Assigned to Blue Whale:

Stressor Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

**IUCN Level 1 Threat**      **Biological Resource Use**

**IUCN Level 2 Threat:**      Fishing and Harvesting of Aquatic Resources

**Severity:** Moderate Severity

**Actionability:** Highly actionable

**Notes:** Large whales, namely the right and humpback whale, are being taken in too large of numbers as bycatch in fixed gear fisheries as a result of entanglements in rope. This issue is at the center of an evolving Atlantic Large Whale Take Reduction Plan to mitigate the risk, but large data gaps exist and entanglement rates are not decreasing.

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#### IUCN Level 1 Threat      Energy Production and Mining

##### IUCN Level 2 Threat:      Oil and Gas Drilling

**Severity:** Moderate Severity

**Actionability:** Moderately actionable

**Notes:** Seismic exploration and drilling can cause hearing and other damage in marine mammal species, as well as create an environment that is difficult to communicate in, which affects breeding success, etc. It also increases vessel traffic, which causing shipstrike risks, and increases the risk of oil spills. Can work with companies to mitigate some of these by avoiding areas that are frequented by species or timing events to certain times of the year

##### IUCN Level 2 Threat:      Renewable Energy

**Severity:** Moderate Severity

**Actionability:** Moderately actionable

**Notes:** Increased noise during construction can have negative impacts. There is currently no information on how noise from wind turbines in the ocean propagates or how it will effect the organisms in that environment.

#### IUCN Level 1 Threat      Transportation and Service Corridors

##### IUCN Level 2 Threat:      Shipping Lanes

**Severity:** Moderate Severity

**Actionability:** Moderately actionable

**Notes:** Large whales can be at risk for ship strikes. It has been shown with right whales in the past that great gains can be made by working with companies and government agencies to modify shipping lanes, put speed restrictions in place or create best practice protocols for areas known to be critical habitat

#### IUCN Level 1 Threat      Climate Change and Severe Weather

##### IUCN Level 2 Threat:      Habitat Shifting or Alteration

**Severity:** Severe

**Actionability:** Actionable with difficulty

**Notes:** The major impact from habitat shifting due to climate change would likely be a loss or relocation of prey or breeding grounds.

##### IUCN Level 2 Threat:      Temperature Extremes

**Severity:** Moderate Severity

**Actionability:** Actionable with difficulty

**Notes:** This would likely affect these species through their access to prey items and potentially breeding grounds. Ability to mitigate sea temperature change is low.

#### IUCN Level 1 Threat      Human Intrusions and Disturbance

##### IUCN Level 2 Threat:      Recreational Activities

**Severity:** Moderate Severity

**Actionability:** Actionable with difficulty

**Notes:** Recreational boaters, fishermen, and whale watch vessels can negatively impact individuals but it is hard to track. Education efforts are done by NMFS with varying degrees of success.

##### IUCN Level 2 Threat:      War, Civil Unrest and Military Exercises

**Severity:** Moderate Severity

**Actionability:** Actionable with difficulty

**Notes:** Military sonar exercises can damage hearing, diving capabilities, and ability to communicate in marine mammal populations. There is a low likelihood of influencing military operations.

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#### IUCN Level 1 Threat

#### Pollution

##### IUCN Level 2 Threat: Excess Energy

**Severity:** Severe

**Actionability:** Actionable with difficulty

**Notes:** The ocean is getting ever louder with seismic and sonar activity, building renewable energy and increases in shipping traffic. An increase in ocean noise can create communication problems for large whales, including difficulty breeding, finding conspecifics, migration, and diving. Sound in the ocean can travel for vast distances. It seems unlikely to be able to curb this trend, but designating important habitats where this can be kept to a minimum could help.

##### IUCN Level 2 Threat: Garbage and Solid Waste

**Severity:** Moderate Severity

**Actionability:** Actionable with difficulty

**Notes:** Plastic waste, as well as marine debris from fixed fishing gear can negatively impact marine mammals through ingestion and entanglement in gear. There are marine debris clean up programs for derelict gear but they are likely only getting a fraction of what is out there. plastics and trash in the ocean comes from such a variety of places and can travel vast distances so getting a handle on the problem would be difficult.

##### IUCN Level 2 Threat: Industrial and Military Effluents

**Severity:** Moderate Severity

**Actionability:** Actionable with difficulty

**Notes:** Pollution sources can bioaccumulate up the food chain and some fish eating marine mammals are at the top of the food chain and susceptible to toxins. There is a low likelihood that legislation will improve this in the short term.

### Species Level Conservation Actions Assigned to Blue Whale:

None. *Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

### Conservation Actions Associated with the Whales Guild:

<b>Conservation Action</b>	<b>Category:</b> Survey and Monitoring	<b>Biological Priority:</b> critical	<b>Type:</b> on-going
Conduct baseline surveys to determine the seasonal density and distribution of fixed fishing gear			

#### Stressor(s) Addressed By This Conservation Action

Fishing and Harvesting of Aquatic Resources

<b>Conservation Action</b>	<b>Category:</b> Survey and Monitoring	<b>Biological Priority:</b> high	<b>Type:</b> on-going
Gather baseline data on the configurations of fixed fishing gear used as a function of seasonality and distance from shore.			

#### Stressor(s) Addressed By This Conservation Action

Fishing and Harvesting of Aquatic Resources

<b>Conservation Action</b>	<b>Category:</b> Public Outreach	<b>Biological Priority:</b> high	<b>Type:</b> on-going
Continue to work with the fishing industry to develop gear modifications that reduce the risk of entanglement and conduct outreach on gear best practices to use			

#### Stressor(s) Addressed By This Conservation Action

Fishing and Harvesting of Aquatic Resources

<b>Conservation Action</b>	<b>Category:</b> Survey and Monitoring	<b>Biological Priority:</b> critical	<b>Type:</b> new
Conduct surveys (aerial, boat based and/or passive acoustic) to determine the distribution of large whales in the coastal waters of Maine			

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Fishing and Harvesting of Aquatic Resources

<b>Conservation Action</b>	<b>Category:</b> Public Outreach	<b>Biological Priority:</b> moderate	<b>Type:</b> on-going
Conduct outreach and trainings to improve the detection of and response time to entangled whales in Maine waters			

#### **Stressor(s) Addressed By This Conservation Action**

Fishing and Harvesting of Aquatic Resources

<b>Conservation Action</b>	<b>Category:</b> Survey and Monitoring	<b>Biological Priority:</b> high	<b>Type:</b> on-going
Determine the high overlap areas between whales, high risk behaviors or persistent habitat use and fixed fishing gear			

#### **Stressor(s) Addressed By This Conservation Action**

Fishing and Harvesting of Aquatic Resources

<b>Conservation Action</b>	<b>Category:</b> Habitat Management	<b>Biological Priority:</b> moderate	<b>Type:</b> on-going
Reduce the amount of ghost gear that could increase the risk of entanglement for large whales			

#### **Stressor(s) Addressed By This Conservation Action**

Fishing and Harvesting of Aquatic Resources

### **Broad Taxonomic Group Conservation Actions:**

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

### **Habitat Based Conservation Actions:**

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-15. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

*The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.*